



# UNITED STATES PATENT AND TRADEMARK OFFICE

82

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/985,865	11/06/2001	Mayumi Nagasaki	Q67079	4481

7590 01/10/2005  
SUGHRUE, MION, ZINN,  
MACPEAK & SEAS, PLLC  
2100 Pennsylvania Avenue, N.W.  
Washington, DC 20037-3213

EXAMINER

TRAN, NGHI V

ART UNIT	PAPER NUMBER
----------	--------------

2151

DATE MAILED: 01/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 09/985,865	<b>Applicant(s)</b> NAGASAKI, MAYUMI	
	<b>Examiner</b> Nghi V Tran	<b>Art Unit</b> 2151	

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 06 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-11 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-11 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>02/11/02, 09/14/04</u> | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 6-7 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 6, the functional limitation of the phrase “wherein said means for obtaining ... signal coding device” (emphasis added) renders the claim indefinite because it is unclear whether the limitations following the phrase are part of the claimed invention.

Claim 7 is rejected under 35 U.S.C. 112, second paragraph, because they directly or indirectly depend on claim 6.

With respect to claim 11, the preamble “A computer readable recording medium” renders the claim indefinite because it is unclear whether the limitation is method, apparatus, or both.

3. Claim 1 recites the limitation “said image coding means” in line 17. There is insufficient antecedent basis for this limitation in the claim. Examiner suggests replacing “said image coding means” with “--said image signal coding means--”.

***Claim Rejections - 35 USC § 102***

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

5. Claims 8-11 are rejected under 35 U.S.C. 102(b) as being anticipated by Rao, U.S. Patent Number 5,506,844.

With respect to claim 8, Rao discloses an output code amount control method of a multimedia signal coding device for coding signals of different kinds including an audio signal, an image signal and a control data, respectively, multiplexing the coded data and then transmitting the multiplexed data, comprising the step of controlling an amount of image data obtained by coding the image signal, correspondingly to data amounts of respective kinds of codes before or after the multiplexing process (figures 1-2 and 5-9; and column 1, lines 50-60; column 2, lines 24-47; and column 6, lines 15-47).

With respect to claim 9, Rao further discloses obtaining a total amount of data of audio data obtained by coding the audio signal, image data obtained by coding the image signal and control data processed in a predetermined manner (column 6, lines 15-47); and obtaining a transmission time by a division of the thus obtained data

Art Unit: 2151

amount by a predetermined data amount per unit time of the multimedia coding device and controlling an amount of image data on the basis of a comparison of the transmission time with a request transmission time requested for the multimedia signal coding device (column 11, lines 8-65).

With respect to claim 10, Rao further discloses the step of decreasing the amount of coded image data when the transmission time is longer than the requested transmission time and increasing the amount of coded image data when the transmission time is shorter than the requested transmission time (figures 5-9).

Claim 11 is also rejected for the same reason set forth in any claimed 8-10 above.

### ***Claim Rejections - 35 USC § 103***

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. Claims 1-7 are rejected under 35 U.S.C. 103 (a) as being unpatentable over Applicant's Admitted Prior Art, in the Background of the Invention and Figures 5-6 (hereinafter Conventional Device), in view of Rao, U.S. Patent Number 5,506,844.

Taking claim 1 as an exemplary claim, Conventional teaches a multimedia signal coding (figure 5) comprising:

- audio signal coding means (item 511 of figure 5) for coding an input audio signal;
- audio data memory means (item 512 of figure 5) for temporarily storing a coded output of said audio signal coding means;
- image signal coding means (item 521 of figure 5) for coding an input image signal while controlling an amount of output data according to an external control signal
- coded image data memory means (item 522 of figure 5) for temporarily storing a coded output of said image signal coding means;
- control data processing means (item 531 of figure 5) for performing a predetermined data processing for an input control data;
- control data memory means (item 532 of figure 5) for temporarily storing an output of said control data processing means;
- multiplexing means (item 540 of figure 5) for multiplexing the data stored in said audio data memory means, said image data memory means and said control data memory means; and
- output code amount control means (item 550 of figure 5) for generating a control signal for controlling an amount of output data of said image coding means on the basis of the output data amount of said coded image data

memory means and notifying the generated control signal to said image signal coding means.

However, Conventional does not explicitly teach output code amount control means for generating a control signal for controlling an amount of output data of said image coding means on the basis of the output data amount of said multiplexing means and notifying the generated control signal to said image signal coding means.

In a multimedia signal coding, Rao discloses output code amount control means for generating a control signal for controlling an amount of output data of said image coding means on the basis of the output data amount of said multiplexing means and notifying the generated control signal to said image signal coding means (figures 1-2; and column 1, lines 50-60; column 2, lines 24-47; and column 6, lines 15-47).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Conventional in view of Rao by controlling an amount of output data of said image coding means on the basis of the output data amount of said multiplexing means and notifying the generated control signal to said image signal coding means because this feature improves the images quality without additional bandwidth. One of ordinary skill in the art at the time of the invention would have been motivated to modify Conventional in view of Rao in order to avoid a degradation of image quality of a moving picture in a real time.

With respect to claim 2, Conventional fails to teach the output code amount control means includes calculation means for calculating a total amount of the data

Art Unit: 2151

stored in said audio data memory means, said image data memory means and said control data memory means to obtain the amount of output data of said image signal coding means on the basis of the total amount of the data.

In a multimedia signal coding, Rao discloses said output code amount control means includes calculation means for calculating a total amount of the data stored in said audio data memory means, said image data memory means and said control data memory means to obtain the amount of output data of said image signal coding means on the basis of the total amount of the data (item 310 of figure 3).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Conventional in view of Rao by adding the output code amount control means because this feature prevents the buffer from overflowing and under-flowing. One of ordinary skill in the art at the time of the invention would have been motivated to modify Conventional in view of Rao in order to maximize the quality of the signals without exceeding the communication channel capacity.

With respect to claim 3, Conventional fails to teach said calculation means includes determination means for obtaining a data transmission time by dividing the total data amount by a predetermined amount of data transmission per unit time of said multimedia coding device and determining the amount of output data of said image signal coding means by comparing the transmission time with a requested transmission time requested for said multimedia signal coding device.



In a multimedia signal coding, Rao discloses said calculation means includes determination means for obtaining a data transmission time by dividing the total data amount by a predetermined amount of data transmission per unit time of said multimedia coding device and determining the amount of output data of said image signal coding means by comparing the transmission time with a requested transmission time requested for said multimedia signal coding device (column 11, lines 8-65).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Conventional in view of Rao by calculating the total output rate and comparing the total output rate with a requested transmission time because this feature increases the image quality without bottlenecks. One of ordinary skill in the art at the time of the invention would have been motivated to modify Conventional in view of Rao in order to avoid a distortion of image quality of a moving picture in a real time.

With respect to claim 4, Conventional fails to teach the determination means includes means for decreasing the amount of coded image signal data when the transmission time is longer than the requested transmission time and increasing the amount of coded image signal data when the transmission time is shorter than the requested transmission time.

In a multimedia signal coding, Rao discloses said determination means includes means for decreasing the amount of coded image signal data when the transmission time is longer than the requested transmission time and increasing the amount of coded

image signal data when the transmission time is shorter than the requested transmission time (figures 5-9).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Conventional in view of Rao by adjusting the amount of coded image signal data depending on the transmission time because this feature increases the image quality. One of ordinary skill in the art at the time of the invention would have been motivated to modify Conventional in view of Rao in order to dynamically maximize the quality of the signals without exceeding the communication channel capacity.

With respect to claim 5, Conventional fails to teach multiplexed data memory means for temporarily storing the output of said multiplexing means, wherein said output code amount control means includes means for obtaining the amount of the output data of said image signal coding means on the basis of the amount of data stored in said multiplexed data memory means.

In a multimedia signal coding, Rao discloses multiplexed data memory means (item 350 of figure 3) for temporarily storing the output of said multiplexing means, wherein said output code amount control means (item 310 of figure 3) includes means for obtaining the amount of the output data of said image signal coding means on the basis of the amount of data stored in said multiplexed data memory means.

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Conventional in view of Rao by adding

Art Unit: 2151

multiplexed data memory means and output code amount control means because this feature prevents the buffer from overflowing and under-flowing. One of ordinary skill in the art at the time of the invention would have been motivated to modify Conventional in view of Rao in order to maximize the quality of the signals without exceeding the communication channel capacity.

With respect to claim 6, Conventional fails to teach the means for obtaining the amount of output data includes determination means for obtaining a data transmission time by division of the amount of data stored in said multiplexed data memory means by a predetermined data transmission amount of said multimedia coding device and determining the amount of output data of said image signal coding means by comparison of the thus obtained transmission time with the requested transmission time requested for said multimedia signal coding device.

In a multimedia signal coding, Rao discloses said means for obtaining the amount of output data includes determination means for obtaining a data transmission time by division of the amount of data stored in said multiplexed data memory means by a predetermined data transmission amount of said multimedia coding device and determining the amount of output data of said image signal coding means by comparison of the thus obtained transmission time with the requested transmission time requested for said multimedia signal coding device (column 11, lines 8-65).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Conventional in view of Rao by calculating

Art Unit: 2151

the total output rate and comparing the total output rate with a requested transmission time because this feature increases the image quality without bottlenecks. One of ordinary skill in the art at the time of the invention would have been motivated to modify Conventional in view of Rao in order to avoid a distortion of image quality of a moving picture in a real time.

With respect to claim 7, Conventional fails to teach said determination means includes means for decreasing the amount of coded image data when the transmission time is longer than the requested transmission time and increasing the amount of coded image data when the transmission time is shorter than the requested transmission time.

In a multimedia signal coding, Rao discloses said determination means includes means for decreasing the amount of coded image data when the transmission time is longer than the requested transmission time and increasing the amount of coded image data when the transmission time is shorter than the requested transmission time (figures 5-9).

Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention was made to modify Conventional in view of Rao by adjusting the amount of coded image signal data depending on the transmission time because this feature increases the image quality. One of ordinary skill in the art at the time of the invention would have been motivated to modify Conventional in view of Rao in order to dynamically maximize the quality of the signals without exceeding the communication channel capacity.

***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

a. "Bit-rate control in a multimedia device," by Hourunranta et al., U.S. Patent Number 6,704,281.

b. "Adaptive bit allocation for video an audio coding," by Huang et al., U.S. Patent Number 5,617,145.

c. "Apparatus and method of generating compressed data, by Mori, U.S. Patent Application Publication Number 2001/0043746.

d. "Method for synchronizing audio and video streams," by Sackstein et al., U.S. Patent Number 6,744,815.

e. "Video/Audio signal coding system and method," by Suzuki, U.S. Patent Number 5,751,356.

f. "Digital recorder and playback apparatus that is compatible with apparatuses adapting motion picture expects group (MPEG) standard, and method therefor," by Kim, U.S. Patent Application Publication Number 2002/0118953.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nghi V Tran whose telephone number is (571) 272-4067. The examiner can normally be reached on Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Nghi V Tran  
Examiner  
Art Unit 2151

NT

  
**ZARNI MAUNG**  
SUPERVISORY PATENT EXAMINER